



## Montana Fish, Wildlife & Parks

April 21, 2003  
1420 East Sixth Avenue  
Helena MT 59620-0701

Environmental Quality Council  
MT Dept Of Environmental Quality  
MT Dept of FWP – Wildlife Division  
✓ MT State Library, Helena  
MT Environmental Information Center  
MT Audubon Council  
MT Shooting Sports Association  
MT Wildlife Federation  
State Historic Preservation Office, Helena  
Meagher County Sportsman Association  
Members, Landowners & Adjacent Landowners

Ladies and Gentlemen:

This letter is to notify you that an Environmental Assessment has been prepared for a Shooting Range Development Grant tentatively planned to build a shooting range northwest of White Sulphur Springs by the Meagher County Sportsman's Association.

The Environmental Assessment can be found on FWP's web site at [www.fwp.state.mt.us](http://www.fwp.state.mt.us) under the "public notices" heading. You can also request a copy directly from this office.

Please submit any comments that you have by 5:00 pm, May 5, 2003 to the Montana Department of Fish, Wildlife & Parks in Helena at the address listed above. If you have any questions, feel free to contact me at 406-444-1267.

Sincerely,

Kurt Cunningham  
Education Bureau Chief  
Conservation Education Division  
[kcunningham@state.mt.us](mailto:kcunningham@state.mt.us)

Montana  
Wildlife

**Draft  
Environmental Assessment**

**Meagher County Shooting Range**

**April 2003**



**Montana Fish,  
Wildlife & Parks**

# Meagher County Shooting Range Draft Environmental Assessment MEPA, NEPA, MCA 23-1-110 CHECKLIST

Draft

1. **Type of proposed state action:** Authorize use of Fish, Wildlife and Parks grant funds to assist the Meagher County Sportsmen Association in developing a public shooting range.
  
2. **Agency authority for the proposed action:** Section 87-2-105, MCA, authorizes Montana Fish, Wildlife & Parks (FWP) to expend funds to provide training in the safe use of firearms and safe hunting practices. Administrative Rules 12.10.101-106 refer directly to terms for shooting range development grants administered by FWP. A project agreement between FWP and Meagher County Sportsmen Association (contingent on a favorable Decision Notice regarding this environmental assessment) would authorize the use of shooting range development fund monies by the Association subject to acts of the Montana Legislature and policies of FWP.
  
3. **Name of project:** Meagher County Shooting Range
  
4. **Name, address and phone number of project sponsor (if other than the agency):** Montana Fish, Wildlife, and Parks is the project grant sponsor.  
Co-Sponsor: Meagher County Sportsmen Association, PO Box 582, White Sulphur Springs, MT 59645, Jerry Churchill, Range Coordinator (406-547-3707).
  
5. **If applicable:**  
Estimated Construction/Commencement Date: May 6, 2003  
Estimated Completion Date: August 1, 2003  
Current Status of Project Design (% complete): 90%
  
6. **Location affected by proposed action (county, range and township):**  
The proposed development is located one mile north of White Sulphur Springs, Meagher County. The site will occupy a portion of SE ¼ Section 1, R6E, T9N and portion of SW ¼ Section 6, R7E, T9N; total land lease of 66 acres. The shooting range can be reached by traveling ¾ mile north from the northwest corner of Townsite-White Sulphur Springs on Jackson Lane, then 0.9 miles easterly.
  
7. **Project size -- estimate the number of acres that would be directly affected that are currently:**

	<u>Acres</u>		<u>Acres</u>
(a) Developed:		(d) Floodplain	<u>0</u>
Residential	<u>0</u>		
Industrial	<u>0</u>	(e) Productive:	
		Irrigated cropland	<u>0</u>
(b) Open Space/Woodlands/Recreation	<u>0</u>	Dry cropland	<u>0</u>
		Forestry	<u>0</u>
(c) Wetlands/Riparian Areas	<u>0</u>	Rangeland	<u>66</u>

8. **Map/site plan:** Attach an original 8 1/2" x 11" or larger section of the most recent USGS 7.5' series topographic map showing the location and boundaries of the area that would be affected by the proposed action. A different map scale may be substituted if more appropriate or if required by agency rule. If available, a site plan should also be attached.

Please refer to attached Appendices A: Aerial Photo and Site Plan, and B: Soil Survey Map and Soil Descriptions.

9. **Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.**

(a) **Permits:** all necessary permits will be filed by the Meagher County Sportsmen Association.

<u>Agency Name</u>	<u>Permit</u>
Meagher County	building permit sanitation permit weed permit

(b) **Funding:**

<u>Agency Name</u>	<u>Funding Amount</u>
Fish, Wildlife & Parks Shooting Range Development Grant (\$25,000 from FY 2003; 20,089 from FW 2004)	\$45,089 (41.5%)
Meagher County Sportsmen Association Association must match FWP grant amount, above. Match may include cash, materials, labor, donations or in-kind services.	\$45,089 (41.5%)
Bair Family Trust (pending, application submitted January 2003)	\$18,470 (17%)
Total project estimated cost	\$108,648 (100%)

(c) **Other Overlapping or Additional Jurisdictional Responsibilities:**

<u>Agency Name</u>	<u>Type of Responsibility</u>
Jackson Ranch	land lease agreement

**10. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action:**

The proposed project establishes a new shooting range in Meagher County, including these features:

- 100' x 28' frame building with metal siding and roofing for storage, educational classroom, indoor air rifle use;
- generator system for lighting;
- 100' x 20' baffled roof overhang with sound muffling effects for firing line and shooting bench cover;
- 10 shooting benches along firing line for rifle and pistol use;
- dirt berms and/or target markers at 7, 25, 50, 75, 100, 200, 300, 500, 800 and 1,000 yard distances;
- archery shooting area;
- shotgun (skeet and clay pigeon) shooting area;
- restroom facility (sealed vault, or indoor restroom facility which would require drilling a water well);
- gravel parking for approximately 30 vehicles; unsurfaced parking for an additional 50 vehicles;
- fencing of main use area to keep out livestock;
- signs: site identification, regulations, and perimeter warning signs;
- locking entrance gate;
- 10 youth rifles.

The Meagher County Sportsmen Association is requesting funds to complete Phase I of the project, which will include site infrastructure and capital improvements for the shooting range, but will not include development of the bow or shotgun ranges. These aspects of the range will be completed as funding is acquired in the future.

The Meagher County Sportsmen Association's goal is to build a facility that will provide the community, surrounding area, and especially the youth, a safe place to learn the ethical use and practice of firearm and bow hunting safety. The objective is to build a facility large enough to teach and conduct, not only state approved courses, but nationally recognized courses designed to help the citizens of Meagher County prevent accidents with firearms. For example, the "Eddie Eagle" program sponsored by the NRA, is designed to help prevent children from having accidents with firearms. The Association believes the proposed project will aid in their efforts to educate the public to reduce the likelihood of firearm-related accidents and firearm-related unethical hunting behavior.

White Sulphur Springs, Montana is one of the more active hunting areas in the State; however, there is no legal or safe location for the general public, law enforcement personnel or educational groups to practice appropriate firearms use or even sight-in a hunting rifle. The nearest shooting range is in the Townsend area, an 80-mile round trip from White Sulphur Springs.

Meagher County youth and adults get book knowledge, but little or no practical experience. Hunter Education programs (which averages 22 participants annually in White Sulphur Springs) and the Bow Hunter Education program have difficulty finding a suitable meeting facility. The 4H youth groups (about 18 participants annually) shoot air rifles in the County shop, where there is potential for damage to shop equipment housed in the building. Schools typically housed these education efforts in the past; however, school boards are becoming increasingly sensitive to firearms on campus.

The Meagher County Sportsmen Association, a nonprofit organization of approximately 35 members, was started in 1993, with the purpose of promoting sports, especially hunting and fishing. Having recognized a need for a safe and acceptable place to practice firearm and hunter safety, the Association accepted the challenge to obtain land for the purpose of developing a shooting range in the county. After several years of searching, they have successfully obtained 66 acres with a 10-year (beginning November 1, 2002) lease from the Jackson Ranch, northwest of the city of White Sulphur Springs. The lease was paid by a few of the members with faith that they would be successful in raising enough capital to finish the project. The cost is \$400.00 a year, or \$4000.00 over the 10-year life of the lease. The Association has the option to renew the lease for an additional 10 years, if they are not in default in the performance of the lease, thus continuing the availability of the newly constructed facilities to the public for potentially 20 years.

The newly acquired location is well within the boundaries of the Jackson Ranch, which will limit knowing or inadvertent trespass into the range of fire. Signs will be mounted along Jackson Ranch fence lines beyond the shooting range boundaries to enlarge the buffer zone. The range location is in a natural coulee, providing a natural backdrop for targets. The topography will also contain the sound of large rifles and limit visibility of the new development from town.

The building, benches and restroom facilities will be on gradually sloped terrain. These primary facilities will be accessible to people with disabilities. Rifle range berms and targets will be located northeast of the building above the coulee bottom. Berms will be raised for closer targets, but the natural topography will provide backdrops for more distant targets. Berms will be constructed to allow continued surface runoff during precipitation events. Surrounding areas disturbed by construction will be seeded with local grasses to encourage re-vegetation, and to reduce erosion and weed establishment.

The Association will provide accessible restroom facilities for the public. This will be a pre-formed, sealed vault latrine; or if funds allow, a water well will be drilled for an indoor, heated facility.

The County and the City have committed to help with the construction and dirt work needed to complete the project. The Association will continue to search for additional donations and fundraising projects to supplement future maintenance needs and to develop the archery and shotgun ranges.

The Association intends to charge a moderate fee for adults using the range, but will not charge youth organizations, such as 4H. Hunter or Bow Hunting Education classes will also have free use of the site. They will be encouraged to freely use the facility. To aid local educational efforts, the Association wants to provide 10 practice rifles for the youth. In addition, local law enforcement personnel will not be charged to use the shooting range.

Fees are expected to pay for operations and maintenance of the site. The road to the range will be gated and locked to provide a controlled entrance. The Meagher County Sheriff's office has agreed to administer fee collection and gate key distribution to the public. The Association will provide liability insurance for all people who use the facilities.

About 2.8% of the youth are currently enrolled in formal education programs relating to firearms or hunting. The Association expects that number to double as the project develops and use of the facility is promoted. It is anticipated that in the future approximately 10-15% of the total community will actively use the facility during the year, with additional use expected seasonally from out-of-county hunters and during marksmanship competitions, as programs expand. The proposed project is intended to provide a safe and controlled environment to teach and practice safe bow and firearm use to all ages. The range will provide a place for youth, hunters, sport shooters, law enforcement and the interested public to develop marksmanship.

**11. List of agencies consulted during preparation of the EA:**

- U.S. Forest Service
- USDA Natural Resources Conservation Services
- Department of Natural Resources and Conservation (web page)
- Montana Natural Heritage Program (Natural Resources Information System)
- Montana Fish, Wildlife & Parks
  - Wildlife Division
  - Fisheries Division
  - Legal Division
  - Conservation Education Division

## **PART II. ENVIRONMENTAL REVIEW**

### **1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.**

#### **A. PHYSICAL ENVIRONMENT**

1. <b><u>LAND RESOURCES</u></b>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated*	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Soil instability or changes in geologic substructure?		X				1a.
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X		Yes	1b.
c. **Destruction, covering or modification of any unique geologic or physical features?		X				1c.
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (attach additional pages of narrative if needed):**

1a. No changes to soil stability or geologic substructure will occur from the proposed project.

1b. The new range construction will compact, disrupt and displace surface soils within a 70 x 90 yard area in order to level and construct a 48' x 100' building/firing-line/bench area and gravel parking area. Dirt will be mounded to provide a backdrop for the closer rifle targets; farther targets will be backed by the naturally sloped topography. All disturbed areas will be seeded with local grass mixture after construction to reduce erosion and maintain productivity.

1c. No unique or physical features will be disturbed.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.



2. <u>AIR</u> Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).)			X		Yes	2a.
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. ***For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a.)		N/A				
f. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (attach additional pages of narrative if needed):**

2a. Minor and temporary amounts of dust are anticipated during construction activities. Disturbed areas will be seeded after completion to encourage vegetative growth and reduce future dust. No other ambient air qualities will be altered.

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

3. <u>WATER</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated*	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X		Yes	3a.
b. Changes in drainage patterns or the rate and amount of surface runoff?			X		Yes	3b.
c. Alteration of the course or magnitude of floodwater or other flows?			X		yes	3c.
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				3h.
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. ****For P-R/D-J, will the project affect a designated floodplain? (Also see 3c.)		N/A				
m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)		N/A				
n. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (attach additional pages of narrative if needed):**

Under the proposed construction and operation of the shooting range, it is expected that there will be minor direct or indirect affects to the water resources of Montana. The proposed Rifle Range firing line will be located about a quarter mile from an irrigation canal and about ¾-mile from the North Fork Smith River. Shooting and target berms will be farther from these water bodies in foothills high above the floodplain. There is slight potential for runoff or erosion into the surface waters without erosion or sedimentation devices in place.

3a. Construction activities will be limited to the minimum area necessary. A very minor and temporary amount of turbidity may occur during water run-off events. Berms would be contoured and revegetated to minimize additional run-off. Seeding disturbed areas after construction will help vegetation get established and reduce erosion. The drainage areas are typically dry, but lead to a small irrigation canal approximately ¼ mile south of the construction site.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

3b. All disturbed areas will be reseeded and monitored for erosion. Surface run-off will slightly increase before vegetation can reclaim disturbed areas; however, due to the typically arid nature of the environment, impacts will be minor and short term.

3c. Contingent on response from Dick Bucsis:

Some minor drainage diversions may be necessary to divert potential floodwater (25 or 50 year floods or major storm events) around the proposed buildings. These cut and fill areas would be seeded after construction to mitigate erosion.

3h. Lead from shot and bullets will be deposited on or in the soil at the shotgun and rifle ranges. The amount of lead that may be dissolved in water is determined primarily by the pH of the water. If lead is dissolved in water, the amount of lead that attaches to the soil and the amount that enters the ground water are determined by several major factors, including the following items as documented in *Environmental Aspects of Construction and Management of Outdoor Shooting Ranges, Facility Development Series Number 2*; by the National Shooting Sports Foundation, Newtown, CT.

1. Acidity or alkalinity of the soil. Lead tends to become more mobile at pH levels below 6.5 and above 8.5. Lead tends to be relatively inactive at pH ranges between 6.5 and 8.5. According to the Natural Resources Conservation Service (NRCS), the soils in the area of the new range are Delpoint-Cabbart loams with 8-35% slopes and have a pH of 7.4-9.0. The likelihood, therefore, of lead becoming mobile in the soils is low.

2. Percentage of clay in the soil. More lead ("free" lead ions) attach to clay particles in clay soils than to other soil types. This bond helps prevent migration as these dense clay soils prevent the lead compound from moving quickly through the subsurface. Solid clay layers block water from penetrating deeply into the ground, and thus further prevent dissolved lead from reaching the groundwater beneath the clay layer. The Ground-Water Information Center Site Report (GWIC – well log report at [mbmaggwic.mtech.edu](http://mbmaggwic.mtech.edu)) identifies soils found during drilling of a nearby well (GWIC Id# 22190 at the intersection of Jackson Lane and the rifle range entrance road). Tan clay was encountered at 6'-16' and brown clay found from 16'-32.5' feet. The soils at the shooting range are composed of about 18-35% clay down to about 20 inches, with paralithic bedrock at 20-40 inches. These characteristics will help impede the travel of lead down through the soil.

3. Depth to ground water. The closer the ground water is to the surface, the higher potential for contamination. Department of Natural Resources and Conservation (DNRC) water well records were reviewed and revealed only one well near the subject site. This well is in T9N R6E Section 1 (GWIC Id # 1683): well depth 135', static water level 90', surface land elevation about 5,074'. No well records were found in T9N R6E Section 6. The subject site ranges in elevation from about 5,100 to 5,200' above sea level. It is anticipated that ground water depths will be 100-150' at the range site due to its higher elevation and differences in topography and soil type. This depth provides a large buffer before lead would reach ground water.

4. Annual precipitation. One of the most important factors that influences lead degradation and migration is precipitation. The greater the annual precipitation, the greater potential for lead to be dissolved in surface waters. Ranges located in areas with high annual/seasonal rainfall, or excess of the average (40"-45"), have a higher risk of lead migration than those located in arid regions. The area of the rifle range proposed at White Sulphur Springs is considered arid, with a low annual rainfall of 14"-18" (Montana Natural Heritage Program Average Annual Precipitation 1961-1990 data at [nirs.state.mt.us/mtnhp](http://nirs.state.mt.us/mtnhp)). This low precipitation level reduces the potential of lead dissolving into the ground water and decreases the potential of either runoff or migration of dissolved lead through the soil.

The depth of ground water and difficulty for lead to travel through the soils given the soil pH, and the lack of precipitation at the new range site work together to favorably minimize the potential for lead to enter the ground water. Please refer to Appendix B for a more in depth description of the soils at the range site.

It is recommended that the Meagher County Sportsmen Association sample the water if they drill a new well for restroom facilities and periodically sample the water in the future to monitor lead levels as an indicator of lead dissipation. Periodic soil samples are also advised, including prior to or soon after first use of the range. There are published resources, including that referenced above, that discuss range management to aid in lead control.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

4. <u>VEGETATION</u> Will the proposed action result in?	IMPACT *				Can Impact Be Mitigated*	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X		Yes	4a.
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4c.
d. Reduction in acreage or productivity of any agricultural land?			X		Yes	4d.
e. Establishment or spread of noxious weeds?		X				4e.
f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		N/A				
g. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Vegetation (attach additional pages of narrative if needed):**

4a. Areas proposed for new construction are primarily covered with common grasses including crested wheat grass, June grass and Idaho fescue. The abundance of these plants will decrease during and after construction, but disturbed areas will be seeded to speed vegetation recovery. This area has been disturbed in the past by concentrated use of cows and calves in the spring; this use will decrease and be eliminated in some areas with the development of the shooting range.

4c. No plant species of special concern are known to inhabit the area proposed for construction (as determined by field review conducted by Dick Bucsis, Dec. 2002). A data search by the Montana Natural Heritage Program revealed no records of plant species of concern in the project area (written communication to Sue Dalbey, February 13, 2003).

4d. The majority of the property will continue to be used for intermittent winter livestock grazing. The productivity of this range will be temporarily reduced by approximately 1.4 acres during construction and until vegetation is reestablished. The main shooting area would be fenced in the future to allow closure of this area and reduce seasonal conflicts with grazing cattle and shooting range users.

4e. Areas disturbed by construction will be prone to the establishment of noxious weeds. All disturbed areas will be seeded with mixed grass immediately after construction to reduce the possibility of weeds becoming established. The property will be regularly monitored by the Association; chemical and mechanical methods will be used as needed to remove weeds until adequate ground cover has returned.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

** 5. <u>FISH/WILDLIFE</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X			5b.
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				5f.
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X			5g.
h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)		N/A				
i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)		N/A				
j. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Fish and Wildlife (attach additional pages of narrative if needed):**

This area is considered open range land and primarily provides habitat for antelope, a few mule deer and a few common non-game species, according to retired local FWP Wildlife Biologist Dick Bucsis. No surface water is present on the property or closer than approximately ¼ mile. FWP Fisheries Biologist Travis Horton anticipates few potential impacts on aquatic resources. Surface water flow from precipitation events may change very slightly with the addition of the proposed building, gravel parking area and target berms. Erosion will be mitigated with seeding of disturbed soils with local grasses.

5b. FWP Wildlife Biologist Adam Grove anticipates minor impacts to wildlife in general, and to antelope in specific, since FWP Wildlife Biologist Adam Grove suggests that antelope use in the immediate area of the shooting range will probably decline while the range is in use, particularly in the short term, due to noise and increased human activity. The area proposed for the shooting range is very small compared to the overall acreage of antelope range in the area; antelope may be slightly displaced and perhaps will habituate to the increased noise (written communication to Sue Dalbey, April 8, 2003). There are no fishery resources on the property.

5f. Mr. Bucsis has determined that threatened or endangered species do not inhabit the area proposed for construction, including black-tailed prairie dog, Eskimo curlew, least tern, or mountain plover. A search by the Natural Resources Information System found no records of species of special concern in at least a three-mile radius of the subject area (written communication to Sue Dalbey dated February 13, 2003). The research did reveal a great blue heron rookery approximately 3.5 miles southwest of the project site on the North Fork Smith River. The rookery is not expected to be impacted by the proposed project.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

5g. Human use will slightly increase seasonally compared to recent historical use patterns (ranch operations). According to Mr. Buccis, the shooting range area is primarily used by antelope on a seasonal basis and makes up less than 1 percent of their total yearlong habitat. Mr. Grove suggested that antelope use of the area will likely decline due to the shooting range, but they may eventually habituate to the noise (written communication to Sue Dalbey, April 8, 2003).

## B. HUMAN ENVIRONMENT

6. <u>NOISE/ELECTRICAL EFFECTS</u> Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Increases in existing noise levels?			X		Yes	6a.
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Noise/Electrical Effects (attach additional pages of narrative if needed):**

6a. Noise levels as a result of firearm shooting are expected to be minor or unnoticeable to local residences/peoples due to the location (one mile from White Sulphur Springs), the natural topography and noise abatement features included in the design/construction of the building and firing line facilities. The nearest residents are about a mile from the range.

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

7. <u>LAND USE</u> Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?			X Positive			7a.
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?			X Positive			7c.
d. Adverse effects on or relocation of residences?		X				
e. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Use (attach additional pages of narrative if needed):**

7a. The proposed new shooting range increases the productivity by providing multiple uses of this land. Cattle and wildlife grazing will continue for most of the year, while also providing use for shotgun, rifle and bow education and practice for all ages.

7c. Land use elsewhere in the county precludes the use of firearms. The lease and proposed development of the subject parcel will provide the only safe location for bow and firearms education and practice available in Meagher County.

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

8. <u>RISK/HEALTH HAZARDS</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?			X		yes	8a.
b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?			X		yes	8c.
d. ***For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		N/A				
e. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Risk/Health Hazards (attach additional pages of narrative if needed):**

8a. Weed abatement methods will include the use of chemical applications. Application and storage will be in accordance with product requirements and conducted by the Meagher County Sportsmen Association and in cooperation with the Meagher County Weed board.

c. Herbicide applications will occur during times when the range is not anticipating high visitation to reduce the potential for human interaction with chemicals.

There is a potential hazard of a firearms related accident occurring at any shooting range due to the nature of firearms. Currently, the community struggles to find an adequate place to practice the safe use of firearms for educational purposes or practical hunting preparation. The goal of this project is to reduce the potential for firearms-related accidents by providing a location and facilities specifically designed for the safe operation of firearms. The project also provides a facility to teach firearms safety and promote educational opportunities relating to firearms, related sports, and the ethics surrounding those sports. The objective is to build a facility large enough to teach and conduct not only state approved courses, but nationally recognized courses designed to help the citizens of Meagher County to prevent firearm-related accidents.

Lead, a component of most rifle and shotgun ammunition, is considered unhealthy when ingested. Lead will be deposited primarily at the target sites and somewhat along the firing line. Due to the distance to access the site, fees required, and locked gates to pass through, Small children are likely at the highest risk of ingesting dirt which could contain lead, but will be supervised by an adult who brought them to the facility. The Association can monitor lead levels in water and soils on a periodic basis to determine if lead is traveling through the soils and becoming a concern in the future. Given the soil, precipitation and ground water depths at the site, lead is not anticipated to become a health hazard (see preceding checklist number 3. Water: Comments 3h.).

Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.



9. <u>COMMUNITY IMPACT</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?			X		yes	9a.
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				9c.
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				9e.
f. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Community Impact (attach additional pages of narrative if needed):**

9a. Due the previous use of the land solely for livestock grazing, the human population on this 66 acres will increase with the new proposed use. The purpose of the site development is to attract people for safe firearms practice and education. The White Sulphur Springs community may experience small visitation surges in the future if the Association presents competitive events at the range. These events are expected to draw shooters from around and outside of the county. The development of the gravel parking area, building, covered shooting line and site layout, the visitors will be easily and safely managed at the range.

9c. The project will be completed with volunteer labor with grant funds primarily used to purchase materials; therefore, local employment, personal income or industrial/commercial activity will not be affected.

9e. Traffic on Jackson Lane will increase; however, this is a good county road. Traffic hazards will be minimal since the terrain is level with low vegetation; visibility is good where traffic enters Jackson Lane from the road to the shooting range. Vehicles will be also be slowed to accommodate the 90-degree corner in the Jackson Lane at this point and signs will alert drivers of the range turn-off.

\* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

10. <u>PUBLIC SERVICES/TAXES/UTILITIES</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:			X		yes	10a.
b. Will the proposed action have an effect upon the local or state tax base and revenues?			X			10b.
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?			X			10c.
d. Will the proposed action result in increased use of any energy source?			X		yes	10d.
e. **Define projected revenue sources						10e.
f. **Define projected maintenance costs.						10f.
g. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Public Services/Taxes/Utilities (attach additional pages of narrative if needed):**

10a. The county has agreed to help with construction of the project. Matching grants will reduce costs to the Association and the public entities. County roads leading to the range will require a slight increase in maintenance due to increased traffic. The Association has agreed to allow free use of the range for law enforcement personnel.

10b. If the improvements to the 66-acre shooting range are assessed, the local tax base may increase slightly.

10c. The project includes the construction of a new building, restroom, and shooting line facilities. Use of public utilities is not anticipated; propane may be used to provide heat and/or light.

10d. A propane generator is proposed for use in heating and providing lights in the building. This is a much less expensive option than extending electric services to the site.

10e. Montana Fish, Wildlife & Parks shooting range development program grant would provide approximately 41.5 percent of the total cost of the proposed project; another 41.5 percent would be provided by the Meagher County Sportsmen Association in the form of matching cash, materials, and donation of materials and labor. This provides a 1:1 match as required by the FWP guidelines. Seventeen percent of the total project cost has been requested from the Bair Family Trust (application submitted January 2003), and if granted, this could be used as part of the Association's private funds match to the FWP grant, if necessary.

The shooting range grant program restricts the amount of funding granted to any one project to less than thirty-percent of the overall program budget. The proposed project complies with that regulation, even if the funding is not spread over two fiscal years, as noted below, i.e. \$45,089 is less than 30% of the total funds allocated to the grant program in FY 2003. In addition, every application submitted and meeting program criteria has been granted since the program was founded, thus no applications received to date would be unfunded due to the larger size and granting of this project.

Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

\*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

\*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

\*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

The FWP shooting range development grant would be applied over two fiscal years:

FY 2003	\$25,000
FY 2004	\$20,089
Total	\$45,089

10f. Maintenance of the shooting range will be provided and paid for by the Meagher County Sportsmen Association.

<b>** 11. AESTHETICS/RECREATION</b>  Will the proposed action result in:	<b>IMPACT *</b>				<b>Can Impact Be Mitigated *</b>	<b>Comment Index</b>
	<b>Unknown *</b>	<b>None</b>	<b>Minor *</b>	<b>Potentially Significant</b>		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X Positive			11c.
d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.)		N/A				
e. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Aesthetics/Recreation (attach additional pages of narrative if needed):**

This is open range land covered in grasses. The shooting range will be located in the natural coulees, which will limit the visibility and noise from the proposed project and associated use. Though it is located above the town of White Sulphur Springs, it will not be visible from town or nearby roads.

11c. Recreation/tourism opportunities will increase in both quantity and quality as a result of development of the shooting range as described in the benefits narrative section of this document (Part I Proposed Action Description, Item 10). To-wit: The Meagher County Sportsmen Association's goal is to build a facility that will provide the community, surrounding area, and especially the youth a safe place to learn and practice the safe and ethical use of firearms and bow hunting equipment. The objective is to build a facility large enough to teach and conduct not only state approved courses, but nationally recognized courses designed to help the citizens of Meagher County to prevent firearm-related accidents. For example the "Eddie Eagle" program sponsored by the NRA, is designed to help prevent children from having accidents with firearms. The Association believes they can monitor and review their performance and educate the public so chances of having accidents or misuse or abuse firearms, hunting rights or privileges will be greatly reduced.

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

12. <u>CULTURAL/HISTORICAL RESOURCES</u>  Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				12a.
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.)		N/A				
e. Other:						

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Cultural/Historical Resources (attach additional pages of narrative if needed):**

12a. No prehistoric, historic, or paleontological sites are known to exist in the areas of proposed construction. Because the property is not State owned or controlled, the area is not subject to approval by the State Historic Preservation Office, according to the Montana State Antiquities Act, cited in statute 22-3-424, MCA; and, no federal involvement is necessary to complete the project (personal communication from FWP Cultural Coordinator Paul Valle to Sue Dalbey, May 23, 2002).

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

## SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE  Will the proposed action, considered as a whole:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?			X		yes	13b.
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. ***For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)		N/A				
g. ****For P-R/D-J, list any federal or state permits required.		N/A				

**Narrative Description and Evaluation of the Cumulative and Secondary Effects on Significance Criteria (attach additional pages of narrative if needed):**

13b. The use of firearms is potentially hazardous, however the goal of this project is to reduce the potential for firearm-related accidents by designing a site specifically for firearms use and providing facilities that improve public educational opportunities and promotes safe use of firearms.

- \* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.
- \*\* Include a narrative description addressing the items identified in 12.8.604-1a (ARM).
- \*\*\* Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.
- \*\*\*\* Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

## **PART II. ENVIRONMENTAL REVIEW (CONTINUED)**

- 2. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:**

**Alternative A: No Action: FWP does not provide grant monies for development of the proposed project.**

This alternative would result in cancellation of the project due the lack of funding. The local area would not have an acceptable and safe area for various shooting activities, including firearm safety and marksmanship training for local youth, firearm target practice for adults, and archery practice and training. Also, potential development of recreational/competition opportunities such as trap shooting, turkey shoots, and other archery/firearm events would be eliminated. The potential to increase the number of hunting and shooting enthusiasts in the county would be lost, as would the potential to improve safety and marksmanship among hunters and law enforcement personnel. The Association may default on the 10-year lease signed with the land owner.

**Preferred Alternative B: Completion of the proposed project with grant funding from FWP.**

Under the Preferred Alternative as described, FWP would grant the Meagher County Sportsmen Association the requested funds. The Association would complete the project, then submit receipts/proof of services and materials rendered to obtain monetary reimbursement. The completed project would fulfill the community and county need for a safe and managed location to practice firearms safety. The Association would be responsible for all permits, construction, and program implementation.

- 3. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:**

Use of the Shooting Range Development Grant funds is contingent upon the project meeting FWP and legislative policies. FWP requires the grant recipient to file quarterly reports regarding project progress. FWP will revisit the site periodically for up to ten years to evaluate the site and use of improvements.

Reseeding areas disturbed by construction will aid in revegetation, reduce potential establishment of noxious weeds, speed the recovery of livestock grazing values, and reduce erosion.

The Sportsmen Association will monitor and control weeds on the new range area using mechanical and chemical methods.

### **PART III. NARRATIVE EVALUATION AND COMMENT**

The Meagher County Sportsmen Association, local law enforcement entities, landowners and citizenry are greatly concerned about public safety relative to the usage of firearms, including training, hunting and practice activities. Firearm handling and safety, shooting ethics, and opportunities for the local youth are of special concern. The Association has obtained a suitable site for development of a modern and complete shooting range; a gracious landowner has dedicated the land. Enthusiasm is high within the Association, the Meagher County Commission and White Sulphur Springs City Commission. The Association has obtained commitments for substantial donations of materials, labor and equipment usage. There is great potential for a successful project and future programs that will benefit the community at all levels.

This assessment has revealed very few impacts, all of which are minor and all can be mitigated. The area is not inhabited by any species of concern. Physical impacts primarily concern surface soil and vegetation disruptions which will be mitigated by reseeding disturbed areas with a hearty local grass mix. Periodic soil and water surveys can monitor lead levels to address health concerns of the human population. The potential for providing an educational opportunity for youth and adults and to promote firearms safety is a great asset to the community.

### **PART IV. EA CONCLUSION SECTION**

- 1. Based on the significance criteria evaluated in this EA, is an EIS required? NO. If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.**

Based on an evaluation of impacts to the physical and human environment, under MEPA, the proposed action is not a significant action affecting the human environment and impacts can be mitigated; therefore, an environmental impact statement is not a necessary level of review.

- 2. Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?**

The Meagher County Sportsmen Association has discussed the proposed project at length during their monthly meetings, which are open to the public and advertised in the local newspaper.

The FWP Shooting Range Development Grant Application for the proposed project was submitted by the Association in November 2002. Approval is contingent upon a favorable Decision Notice issued by FWP regarding this environmental assessment.

Copies of this environmental assessment will be distributed to the Association members and neighboring landowners for review and to ensure their knowledge of the proposed project.

The public will be notified in the following manners to comment on the EA, the proposed action and alternatives:

- One public notice in the area newspapers: *The Meagher County News, Great Falls Tribune*
- Public Notice on the Fish, Wildlife & Parks web page: <http://fwp.state.mt.us>.

This level of public notice and participation is appropriate for a project of this scope constructed on private property and having few minor impacts.

**3. Duration of comment period, if any.**

The public comment period will be open for fifteen (15) days following the publication of the notice in the area newspapers. Comments will be accepted until 5:00p.m., Monday, May 5, 2003 and can be mailed to the address below:

Meagher County Shooting Range  
Attn. Kurt Cunningham  
Montana Fish, Wildlife & Parks  
PO Box 200701  
Helena, MT 59620-0701

Or e-mailed to: [kcunningham@state.mt.us](mailto:kcunningham@state.mt.us)

**4. Name, title, address and phone number of the person(s) responsible for preparing the EA:**

Dick Bucsis  
Retired FWP Wildlife Biologist  
MCSA Member  
White Sulphur Springs, MT  
406-547-3796

Sue Dalbey  
Independent Contractor  
Dalbey Resources  
926 N. Lamborn St.  
Helena, MT 59601  
406-443-8058

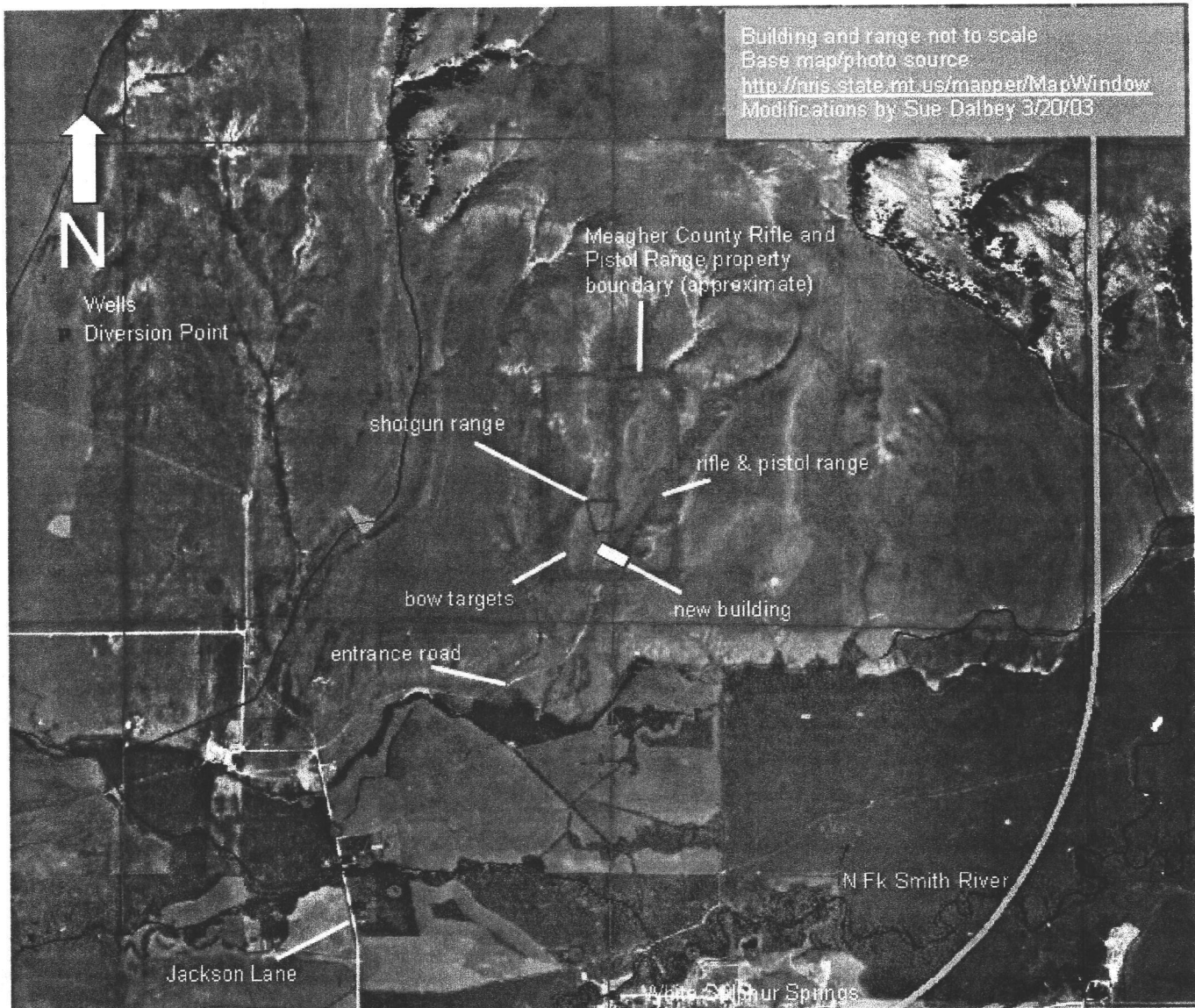
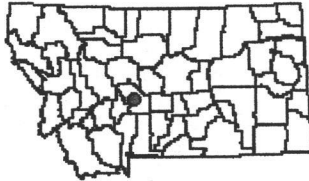
Kurt Cunningham  
Education Bureau Chief  
Montana Fish, Wildlife & Parks  
PO Box 200701  
Helena, MT 59620  
406-444-1267

**APPENDICES**

- A. Aerial Photo and Site Plan
- B. Soil Map and Soil Descriptions

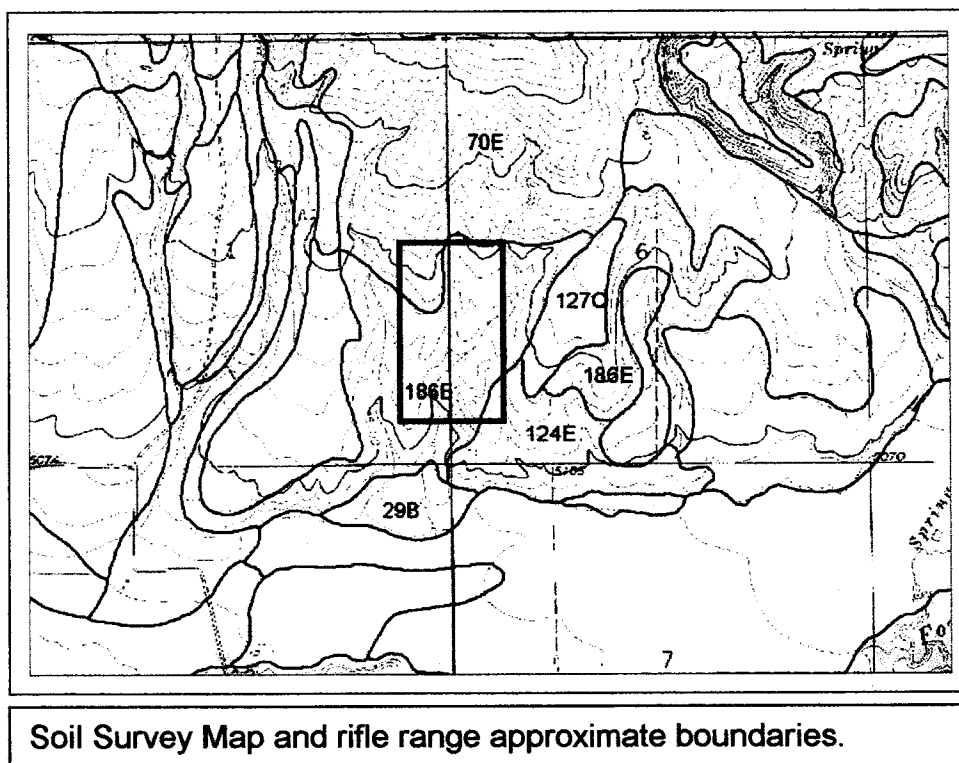


**APPENDIX A**  
**Aerial Photo and Site Plan**  
**Meagher County Shooting Range**  
**R6E T9N Section 1 and R7E T9N Section 6**  
**66 acres**



**APPENDIX B**  
**Soil Survey Map and Soil Descriptions**  
**Meagher County Shooting Range**  
**R6E T9N Section 1 and R7E T9N Section 6**  
**66 acres**

Soils Information provided by USDA Natural Resources Conservation Service, Meagher County Soil Survey, White Sulphur Springs, Montana; Jay Skovlin, Soil Scientist



## Mapunit Descriptions

### Meagher County Area, Montana

Note: data applies to the entire extent of the mapunit within the survey area. Mapunit and soil properties for a specific parcel of land may vary somewhat and should be determined by on-site investigation.

This is preliminary information; mapunit concepts or representative descriptions may change with additional data that is collected.

### 186E - Delpoint-Cabbart loams, 8 to 35 percent slopes

*Mean annual precipitation:* 10 to 14 inches

*Mean annual temperature:* 39 to 45 degrees F

*Frost-free period:* 90 to 115 days

#### Delpoint and similar soils

*Extent:* about 60 percent of the unit

*Landform(s):* dissected uplands

*Slope gradient:* 8 to 35 percent

*Parent material:* shale residuum

*Restrictive feature(s):* bedrock (paralithic) at 20 to 40 inches

*Seasonal high water table:* greater than 60 inches

*Flooding hazard:* none

*Ponding Hazard:* none

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Land capability class, non-irrigated:* 6e

*Drainage class:* well drained

*Hydric soil:* no

*Hydrologic group:* C

*Potential frost action:* moderate

Representative soil profile:	Texture	Permeability	Available Water			Kw	Kf
			Capacity	pH			
A — 0 to 3 in	loam (18 to 27 % clay)	moderate	0.5 to 0.6 in	7.4 to 8.4		.37	.37
Bw — 3 to 17 in	loam (18 to 35 % clay)	moderate	1.9 to 2.5 in	7.9 to 8.4		.37	.37
Bk — 17 to 28 in	loam (18 to 35 % clay)	moderate	1.5 to 2.0 in	7.9 to 8.4		.37	.37
Cr — 28 to 60 in	bedrock	slow					

#### Cabbart and similar soils

*Extent:* about 30 percent of the unit

*Landform(s):* dissected uplands

*Slope gradient:* 8 to 35 percent

*Parent material:* Residuum from soft tertiary sedimentary beds

*Restrictive feature(s):* bedrock (paralithic) at 10 to 20 inches

*Seasonal high water table:* greater than 60 inches

*Flooding hazard:* none

*Ponding Hazard:* none

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Land capability class, non-irrigated:* 7e

*Drainage class:* well drained

*Hydric soil:* no

*Hydrologic group:* D

*Potential frost action:* moderate

Representative soil profile:	Texture	Permeability	Available Water			Kw	Kf
			Capacity	pH			
A — 0 to 3 in	loam (18 to 27 % clay)	moderate	0.5 to 0.7 in	7.4 to 9.0		.37	.37
Bk1 — 3 to 7 in	silt loam (18 to 27 % clay)	moderate	0.6 to 0.8 in	7.4 to 9.0		.37	.37
Bk2 — 7 to 18 in	loam (18 to 35 % clay)	moderate	1.7 to 2.1 in	7.4 to 9.0		.37	.37
Cr — 18 to 60 in	bedrock	slow					

Distribution Generation Date: 1/31/03

## Mapunit Descriptions

### Meagher County Area, Montana

Note: data applies to the entire extent of the mapunit within the survey area. Mapunit and soil properties for a specific parcel of land may vary somewhat and should be determined by on-site investigation.

This is preliminary information; mapunit concepts or representative descriptions may change with additional data that is collected.

### 124E - Crago-Musselshell complex, 8 to 35 percent slopes

*Mean annual precipitation:* 10 to 14 inches

*Mean annual temperature:* 37 to 45 degrees F

*Frost-free period:* 90 to 115 days

#### Crago and similar soils

*Extent:* about 60 percent of the unit

*Landform(s):* sideslopes of dissected alluvial fan

*Slope gradient:* 8 to 35 percent

*Parent material:* mixed alluvium

*Restrictive feature(s):* none

*Seasonal high water table:* greater than 60 inches

*Flooding hazard:* none

*Ponding Hazard:* none

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Land capability class, non-irrigated:* 6e

*Drainage class:* well drained

*Hydric soil:* no

*Hydrologic group:* B

*Potential frost action:* moderate

Representative soil profile:	Texture	Permeability	Available Water		pH	Kw	Kf
			Capacity				
A -- 0 to 4 in	very cobbly loam (15 to 27 % clay)	moderate	0.4 to 0.5 in		7.4 to 8.4	.15	.37
Bk1 -- 4 to 26 in	very cobbly clay loam (20 to 35 % clay)	moderate	1.8 to 2.2 in		7.4 to 8.4	.15	.43
Bk2 -- 26 to 50 in	very cobbly loam (15 to 30 % clay)	moderate	1.0 to 1.4 in		7.4 to 8.4	.10	.37
2C -- 50 to 66 in	very cobbly sandy loam (0 to 15 % clay)	rapid	0.3 to 0.6 in		7.4 to 8.4	.05	.24

#### Musselshell and similar soils

*Extent:* about 30 percent of the unit

*Landform(s):* sideslopes of dissected alluvial fan

*Slope gradient:* 8 to 35 percent

*Parent material:* mixed alluvium

*Restrictive feature(s):* none

*Seasonal high water table:* greater than 60 inches

*Flooding hazard:* none

*Ponding Hazard:* none

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Land capability class, non-irrigated:* 6e

*Drainage class:* well drained

*Hydric soil:* no

*Hydrologic group:* B

*Potential frost action:* moderate

Representative soil profile:	Texture	Permeability	Available Water		pH	Kw	Kf
			Capacity				
A -- 0 to 3 in	loam (20 to 27 % clay)	moderate	0.5 to 0.6 in		7.4 to 8.4	.37	.37
Bk -- 3 to 29 in	gravelly loam (10 to 27 % clay)	moderate	3.6 to 4.7 in		7.9 to 8.4	.20	.28
2C -- 29 to 60 in	very gravelly fine sandy loam (10 to 18 % clay)	moderately rapid	1.8 to 3.1 in		7.9 to 9.0	.05	.17

Distribution Generation Date: 1/31/03